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# Factors associated with voting

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## Standard symbols for Statistics Canada

The following standard symbols are used in Statistics Canada publications:

| | |
|---|---|
| . | not available for any reference period |
| .. | not available for a specific reference period |
| ... | not applicable |
| 0 | true zero or a value rounded to zero |
| $0^s$ | value rounded to 0 (zero) where a meaningful distinction exists between true zero and the value rounded |
| $^p$ | preliminary |
| $^r$ | revised |
| x | suppressed to meet the confidentiality requirements of the *Statistics Act* |
| $^E$ | use with caution |
| F | too unreliable to be published |

# Highlights

*In this issue*

## Factors associated with voting

- Voting rates increased with both age and education. However, the education effect was much stronger among young voters, such that the difference in voting rates between 18- to 24-year-olds and 25- to 34-year-olds disappeared after controlling for education and other factors.
- Among family types, single parents with young children were the least likely and couples with no young children the most likely to vote.
- Home owners had significantly higher voting rates than renters.
- Overall, immigrant citizens were less likely to vote than the Canadian-born, but voting rates generally increased with time in Canada. Voting rates were highest for immigrants from Northern and Western Europe, the United States, Australia and New Zealand. Conversely, immigrants from East Asia, West Central Asia and the Middle East had the lowest voting rates.
- Residents of Prince Edward Island, New Brunswick and Quebec had higher-than-average voting rates while Newfoundland and Labrador, Alberta and Manitoba had rates below the national average.
- Employed people were more likely to vote than the unemployed or those not in the labour force, after controlling for other factors.
- Looking only at the employed, those working in the public sector or in high-skill occupations were the most likely to vote. Voting rates were lower for those working 40 hours or more per week and in less-skilled occupations.
- Since Canadian voting rates fell in the 1990s and voting in recent American presidential elections has increased, a long-standing gap between Canadian and American voting rates has closed. Trends in the United Kingdom were similar to those in Canada, but their voting rates remained above those of their North American counterparts in most election years.

# Factors associated with voting

*Sharanjit Uppal and Sébastien LaRochelle-Côté*

Voting is one of the most fundamental aspects of civic engagement. Many political scientists link voting with the health of the democratic process and argue that declining voting rates may be symptomatic of a "democratic deficit" (Pammett and LeDuc 2003; Nakhaie 2006). Because political participation can also influence public policy, others are concerned that lower participation could result in policies that are not necessarily representative of key constituencies, like those who tend to vote less (Archer 2003). As a result, the voter turnout rate is used as one indicator of civic engagement.

In Canada, studies on voter turnout have been based on a number of survey and administrative data sources. Examples include the Equality, Security and Community Survey, last conducted in 2002/2003 (Bevelander and Pendakur 2007) and the Canadian Election Study, conducted after most elections since 1965 (Blais et al. 2004; Adsett 2003). Elections Canada has also provided estimates of voting patterns by age group and province based on the official ballot count for every election since 2004 (Elections Canada 2010).

At Statistics Canada, the first survey covering voting participation was the 1997 Canada Survey of Giving, Volunteering and Participating (CSGVP). The CSGVP asked about voting again in 2001 (Nakhaie 2006), but not in subsequent versions of the survey. Information on voting continued to be collected in General Social Survey cycles on civic engagement in 2003 and 2008 (Milan 2005). Studies based on these sources have shown that some groups—including the young, the less-educated, and the less-wealthy—consistently vote less than others.

Recently, questions on voting in the 2011 federal election were included as a supplement to the Labour Force Survey (LFS) (*see Data source and definitions*). This initiative was sponsored by Elections Canada in order to link the LFS's large sample size and wide range of sociodemographic and labour market information with voting behaviour. For the first time in a Statistics Canada survey, respondents who said that they didn't vote were also asked about their reasons for not voting.[1] The LFS voting questions therefore present an opportunity to cast new light on the factors associated with voting. Also, the large sample size of the LFS allows the study of voting in conjunction with detailed characteristics—something that cannot be examined with smaller surveys.

This article examines the factors associated with voting in the May 2011 federal election. In addition to cross-tabulations, it uses multivariate models to estimate which groups were more likely to vote, holding other factors constant. Changes over time and comparisons with participation in other countries are also briefly discussed (see *Changes in participation rates* and *International comparisons*).

## Turnout rates

After each federal election, Elections Canada calculates the official turnout rate as the number of ballots cast divided by the total registered population.[2] In May 2011, approximately 14.8 million of the 24.3 million citizens on the electoral list cast a ballot, for a turnout rate of 61%. Provinces with higher-than-average voting rates included Prince Edward Island (73%), New Brunswick (66%), Saskatchewan (63%) and Quebec (63%). Those with lower rates included Newfoundland and Labrador (53%), Alberta (56%) and Manitoba (59%). Ontario, British Columbia and Nova Scotia had turnout rates close to the national average.

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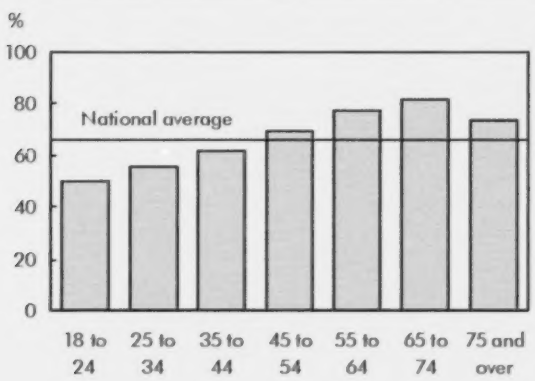
Voter turnout can be defined in different ways. Alternative definitions of turnout include the number of ballots cast divided by the total population 18 years and over, and the number of ballots cast divided by the total *citizen* population 18 years and over. The first of these alternatives can be interpreted as the proportion of voters in the 'voting-age population,' but may be skewed downward because some individuals who are not citizens and who do not have the right to vote would be included in the denominator. The second alternative—the proportion of voters among the citizen population—can be interpreted as a ratio of the eligible population, and is generally seen as a better measure of electoral participation since it includes all individuals who are legally eligible to vote, including those who do not appear on the electoral list. In 2011, the participation rate as a proportion of the citizen population reported by Elections Canada was 59%. Since the citizen population is the best approximation of those who are legally eligible to vote, most of the rates presented in this paper are expressed as ratios of voters to the citizen population.

An issue recognized in voting participation studies is that voting rates estimated by surveys are typically higher than the official turnout rates, and the LFS is no exception. One reason for this is that non-voters are much less likely to answer survey questions on voting (Bauman and Julian 2010). But even after accounting for the fact that non-participants are more likely to be non-voters, the overall participation rate estimated by the LFS is 67%—as opposed to a turnout of 59% when the number of ballots cast is expressed as a share of the citizen population (see *Data source and definitions*). This suggests that unobserved factors account for the difference in voting rates between survey and administrative results. 'Social desirability'—best described as the tendency of respondents to answer questions in a manner that will be viewed favourably by others—could be one of these factors. In other words, some non-voters could have said that they voted since voting is viewed as more socially acceptable than not voting (Holbrook and Krosnick 2010). That said, differences between key age groups and provinces are generally similar between administrative and survey data (see *Data source and definitions*).[3]

In addition to geographical differences, voting patterns can differ across age, sex, education, family status, immigration status, and employment-related variables. These factors and their participation in the most recent federal election are discussed in the next section.

**Chart A Voting rates by age**



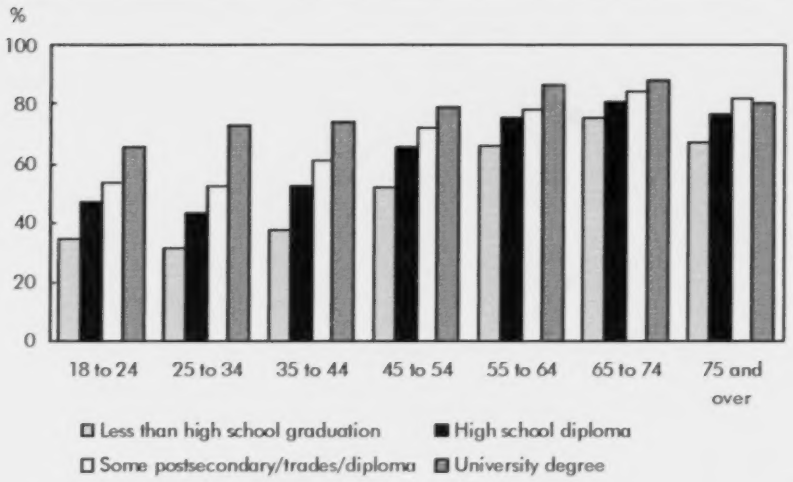

Source: Statistics Canada, Labour Force Survey, May 2011.

## Age, education and family status

Age has been found to matter a great deal when it comes to voting participation. In 2011, the turnout rate was about 50% among people age 18 to 24, and was only a few percentage points higher among 25- to 34-year-olds (Chart A). People age 35 to 44 had participation rates just below the national average. In contrast, older people were more likely to vote, with turnout rates increasing from 70% among 45- to 54-year-olds to a peak of 82% among those age 65 to 74. The rate dropped after age 74, a pattern also seen in Election Canada's administrative data (Elections Canada 2010)[4] and in the most recent U.S. presidential election (U.S. Census Bureau 2010). Health could be a factor for this age group, as 44% of non-voters at least 75 years of age cited illness or disability as a reason for not voting (Statistics Canada 2011).

The link between education and voting is also well-established (Blais et al. 2004; U.S. Census Bureau 2010). In the last federal election, the voting rate among people with a university degree was 78%, compared with

**Chart B Voting rates by age and education**



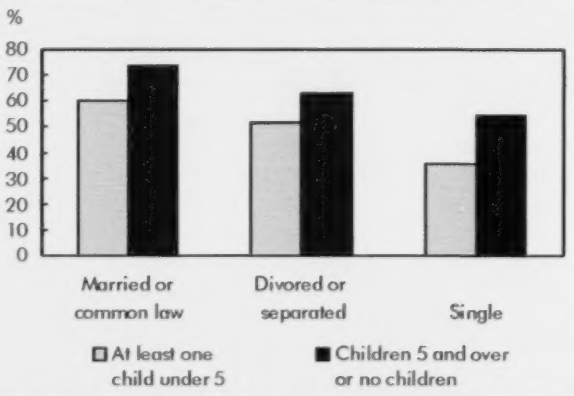

Source: Statistics Canada, Labour Force Survey, May 2011.

25- to 34-year-olds (who are more likely to be in the early stages of parenthood), but also among 35- to 44-year-olds (Statistics Canada 2011). Thus the ability to account for the number of children is an important attribute of the LFS. The presence of children was negatively associated with 2011 voting in all family types—particularly among single parents, as only 36% of single parents of children under 5 years of age voted compared to 60% of couples with children the same age (Chart C).[7]

## Immigration status

Eligible immigrants have been shown to vote less than others in some studies (U.S. Census Bureau 2010; Milan 2005). Various reasons have been put forward to explain this, including the lack of democratic traditions in some regions of the world, the lack of trust in institutions or differences in political culture (Bevelander and Pendakur 2007 and 2009). Differences in voting

**Chart C Voting rates by marital status**




Source: Statistics Canada, Labour Force Survey, May 2011.

rates of 60% or lower among those with a high school education or less. What may be less well-known is that the 'positive' effect of education on voting was much stronger among younger individuals (Chart B).[5] For instance, among people age 25 to 34, the difference in participation between those who had at least a bachelor degree and those with less than a high school education was 42 percentage points.[6] Large differences between university graduates and those with less than a high school education were also seen among 35- to 44-year-olds and 45- to 54-year-olds. These differences narrowed after age 55, but were still significant as participation rates between the university-educated and the least-educated differed by at least 10 percentage points. The implication is that among those with a university education, differences across age groups are much smaller. The weaker link between education and voting among older individuals also supports the view that older generations get more involved in elections, even if they have lower levels of educational attainment (Blais et al. 2004).

Another potentially important factor is the family status of prospective voters. One motivation for examining family status is that many non-voters cited a busy schedule as a reason for not voting, particularly among

patterns across sub-groups of immigrants are not often reported due to small sample sizes. With the LFS, however, differences between recent immigrants, more established immigrants, and the Canadian-born can be studied, as well as differences across immigrants' regions of birth.

Compared with more established immigrants and the Canadian-born, recent immigrants (those who immigrated to Canada in 2001 or later) were less likely to vote (Table 1). The voting rates were 51% for recent immigrants, 66% for more established immigrants and 67% for the Canadian-born. Turnout rates also differed across regions of birth, as immigrants born in West Central Asia and the Middle East (53%) or East Asian countries (54%) had lower rates, while people born in Western/Northern Europe (77%) or 'Anglosphere' countries (United States, United Kingdom, Ireland, Australia and New Zealand) had the highest rates (75%).

Although immigrant men and women had similar voting rates overall, some differences can be found across regions of birth. Men born in Western and Northern Europe (excluding the U.K. and Ireland), Southern Europe, Southern Asia, Southeast Asia, and Africa had higher voting rates than women from these regions. The male–female difference was greatest for those born in Africa—11 percentage points. In contrast, women who were born in Anglosphere countries or in West Central Asian and Middle Eastern countries had slightly higher participation rates than their male counterparts.

To what extent do immigrants become engaged in the Canadian democratic system over time? Although this is a difficult question to answer in the absence of longitudinal data, some insight can be gained by examining differences in the turnout rates between recent and established immigrants from the same region of birth (Table 2). For all source regions, the rates were higher among established immigrants. But for some communities, the difference was much larger.[8] For example, 70% of established immigrants from Africa voted in the 2011 election, compared to just 43% of recent immigrants from that same region. Similarly, the difference between the established and the recently arrived was also significantly higher among Eastern European (21 percentage points), West Central Asian and Middle Eastern (17 points) immigrants. In contrast, the rates among more established immigrants were only marginally higher than those for the recently arrived who were born in Central/South America or East Asia. The lower rates seen among established immigrants born in Eastern Asia, in particular, suggest that they vote less overall, regardless of age or time spent in Canada.

**Table 1 Voting rates by immigrant status and country/region of birth**

| | Both sexes | Men | Women |
|---|---|---|---|
| | | % | |
| **Immigrant status** | | | |
| **All** | **66.5** | **65.6** | **67.4** |
| Canadian-born | 67.1 | 65.9 | 68.3 |
| Established immigrant | 66.3 | 66.8 | 65.9 |
| Recent immigrant | 51.1 | 51.2 | 51.0 |
| **Country of birth** | | | |
| Western/Northern Europe[1] | 76.6 | 78.5 | 74.7 |
| United States, United Kingdom, Ireland, Australia, New Zealand | 75.2 | 73.8 | 76.4 |
| Southern Asia | 68.1 | 68.2 | 68.1 |
| Southern Europe | 67.8 | 69.2 | 66.4 |
| Canada | 67.1 | 65.9 | 68.3 |
| Eastern Europe | 62.8 | 62.6 | 63.0 |
| Africa | 62.2 | 67.2 | 56.4 |
| Caribbean, Central/South America | 61.0 | 60.0 | 61.8 |
| Southeast Asia | 58.5 | 59.0 | 58.2 |
| Other | 57.2 | 58.9 | 55.8 |
| Eastern Asia | 54.1 | 53.5 | 54.6 |
| West Central Asia and Middle East | 53.4 | 52.7 | 54.3 |

1. Excludes the United Kingdom and Ireland.
Source: Statistics Canada, Labour Force Survey, May 2011.

## Economic well-being

Economic well-being could also be positively related to voting participation (U.S. Census Bureau 2010). Examples of variables indicative of economic well-being include labour force status and household wealth.

**Table 2 Voting rates of recent versus established immigrants by region of birth**

| | Immigrants | | |
|---|---|---|---|
| | Recent | Established | Difference |
| | % | | % point |
| Western/Northern Europe[1] | x | 76.8 | ... |
| United States, United Kingdom, Ireland, Australia, New Zealand | 68.2 | 76.3 | 8.1 |
| Southern Europe | x | 67.8 | ... |
| Southern Asia | 60.0 | 70.8 | 10.8 |
| Africa | 43.1 | 70.3 | 27.2* |
| Eastern Europe | 45.2 | 66.3 | 21.1* |
| Caribbean, Central/South America | 56.3 | 61.7 | 5.4 |
| Southeast Asia | 48.3 | 60.7 | 12.4 |
| Eastern Asia | 48.1 | 55.2 | 7.1 |
| West Central Asia and Middle East | 39.6 | 57.0 | 17.4 |
| Other | x | x | ... |

* significantly different at the 5% level
1. Excludes the United Kingdom and Ireland.
Source: Statistics Canada, Labour Force Survey, May 2011.

Employed individuals were significantly more likely to vote than the unemployed (66% versus 57%) but differed little from those not in the labour force (69%). However, the vast majority of the inactive population is made up of retirees, who are more likely to vote. Among the employed, those working less than 40 hours per week were more likely to vote (69%) compared with those putting in 40 hours of work or more (63%).

Research suggests that wealthier individuals may be more likely to vote (Milan 2005). The LFS does not ask about wealth, but has information on home ownership. Since housing is the most significant component of household wealth for the majority of Canadians, home ownership can be used as an indicator of household wealth. Similar to results reported for the United States (U.S. Census Bureau 2010),[9] home owners were much more likely to vote than renters (71% vs. 54%).

## Modelling voting participation

The relationships between the variables described above and voting patterns were established by cross-tabulations and may differ under a full set of control variables. This section uses a multivariate model to control for many factors that could affect voting. A probit model is used to estimate the marginal effect of each variable on voting (Table 3). Marginal effects can be interpreted as the extent to which participation for a group varies from a reference group controlling for other factors in the model.

Most of the associations found in the cross-tabulations persist in the model results. For instance, people under age 45 were less likely to vote, even after controlling for other factors such as region of residence, education level, tenure, immigration, marital and family status, tenure, or labour force status. Higher education levels were also positively associated with voting. On the other hand, immigrants, renters, the unemployed and people with children were significantly less likely to vote.

Some model results did differ from the cross-tabulations. In those instances, the model results should be considered more authoritative. For example, people age 18 to 24 were just as likely to vote as those 25 to 34 when controls for other factors were in place, which differs from the descriptive results. Similarly, the descriptive results had shown that citizens age 75 and over were less likely to vote than 'younger' seniors (age 55 to 74). But when controls were factored in for other characteristics, their probability of voting was higher than that of 55- to 64-year-olds.

The descriptive results also suggested that established immigrants were not much less likely to vote than the Canadian-born, but the probability of voting for established immigrants was lower by 8 percentage points in the model. Since established immigrants tend to be older, their high propensity to vote is mainly related to their age.[10] Similarly, descriptive results indicated that those not in the labour force were more likely to vote. But as mentioned earlier, they

**Table 3 Marginal effects from a probit model of voting[1,2]**

| | marginal effects |
|---|---|
| **Sex** | |
| Male | -0.02* |
| **Age** | |
| 18 to 24 | -0.14* |
| 25 to 34 | -0.15* |
| 35 to 44 | -0.10* |
| 45 to 54 | ref. |
| 55 to 64 | 0.10* |
| 65 to 74 | 0.19* |
| 75 and over | 0.17* |
| **Education** | |
| Less than high school | -0.11* |
| Some high school | -0.08* |
| High school diploma | ref. |
| Some postsecondary | 0.05* |
| Trades/certificates | 0.05* |
| University degree | 0.17* |
| **Family type** | |
| Married/common law with children 5 years and over or no children | ref. |
| Married/common law with at least one child under 5 | -0.02* |
| Single with children 5 years and over or no children | -0.05* |
| Single with at least one child under 5 | -0.16* |
| Divorced or separated | -0.10* |
| Widowed | -0.11* |
| **Immigrant status** | |
| Canadian-born | ref. |
| Established immigrant | -0.08* |
| Recent immigrant | -0.15* |
| **Labour force status** | |
| Employed | ref. |
| Unemployed | -0.02* |
| Not in labour force | -0.05* |
| **Home ownership** | |
| Owner | ref. |
| Renter | -0.11* |
| **Response type** | |
| Proxy response | -0.01* |
| Not a proxy response | ref. |
| **Rural/urban** | |
| Urban | 0.02* |
| Rural | ref. |
| **Province** | |
| Newfoundland and Labrador | -0.13* |
| Prince Edward Island | 0.11* |
| Nova Scotia | -0.01 |
| New Brunswick | 0.03* |
| Quebec | 0.05* |
| Ontario | ref. |
| Manitoba | -0.04* |
| Saskatchewan | 0.00 |
| Alberta | -0.03* |
| British Columbia | -0.01 |
| Number of observations | 96,127 |
| Pseudo R2 | 0.09 |

* significantly different from the reference group (ref.) at the 5% level
1. Dependent variable = 1 if the individual reported voting, 0 otherwise.
2. Marginal effect is for a discrete change in dummy variable from 0 to 1 and is calculated at the means of the independent variables.
Source: Statistics Canada, Labour Force Survey, May 2011.

are also more likely to be retired and thus older. Correspondingly, the model estimates that people out of the labour force had a lower probability of voting than employed individuals.

Finally, most regional differences remained after controlling for other factors. Compared to Ontario, eligible citizens were more likely to vote in Prince Edward Island, Quebec and New Brunswick. In contrast, citizens were less likely to vote in Newfoundland and Labrador, Alberta and Manitoba.

## Employment characteristics and voting

Since the LFS includes detailed work-related information, it can be used to study whether employment characteristics have an influence on the probability of voting among workers. A model was therefore estimated by restricting the sample to employed citizens, and included work-related characteristics such as hours of work, class of worker (public employed, private employed and self-employed), occupation and spouse's work situation. Since some personal characteristics may be associated with labour market outcomes, the model was estimated in steps—first by including work-related characteristics, and then by progressively including additional controls related to personal characteristics (the same ones that were used in Table 3).

Hours of work were not linearly associated with voting. In a model with work-related variables only (Table 4, Model 1), individuals working 30 to 39 hours per week were more likely to vote than those working fewer hours, while those working longer hours were less likely to vote. The results changed little when additional controls were introduced into the model (Models 2 and 3), except that the results were negative but statistically insignificant for the 30-to-39-hours category. Working 40 hours per week or more was therefore negatively correlated with voting.

Public-sector employees were more likely to vote than those working in the private sector, when all variables were included in the model.[11] This may be due to public-sector workers being more directly affected by some public policy decisions (Blais et al. 1990).

Some occupations were associated with a higher probability of voting. Occupations that had higher levels of voting were typically occupations demanding higher skills—management occupations; business, finance and administrative occupations; natural and applied sciences occupations; social science, education, govern-

**Table 4 Marginal effects from a probit model of voting among the employed[1,2]**

| | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| **Weekly hours worked** | | marginal effects | |
| Less than 30 | ref. | ref. | ref. |
| 30 to 39 | 0.03* | 0.00 | -0.01 |
| 40 | -0.03* | -0.04* | -0.03* |
| More than 40 | -0.04* | -0.04* | -0.03* |
| **Spousal employment status** | | | |
| Employed | 0.09* | 0.08* | 0.03* |
| Not employed | ref. | ref. | ref. |
| **Sector** | | | |
| Public | 0.11* | 0.06* | 0.03* |
| Private | | | |
| Self-employed | 0.06* | 0.04* | -0.02 |
| Not self-employed | ref. | ref. | ref. |
| **Occupation** | | | |
| Management | .. | 0.08* | 0.03* |
| Business, finance and administrative | .. | 0.03* | 0.02* |
| Natural and applied sciences and related | .. | 0.08* | 0.06* |
| Health | .. | 0.04* | 0.01 |
| Social science, education, government service and religion | .. | 0.10* | 0.06* |
| Art, culture, recreation and sport | .. | 0.05* | 0.04* |
| Sales and service | .. | ref. | ref. |
| Trades, transport and equipment operators and related | .. | -0.04* | -0.04* |
| Primary industry | .. | -0.01 | 0 |
| Processing, manufacturing and utilities | .. | -0.07* | -0.05* |
| **Industry controls** | No | Yes | Yes |
| **Personal characteristics** | No | No | Yes |
| Number of observations | 60,123 | 60,123 | 60,123 |
| Pseudo R2 | 0.02 | 0.04 | 0.09 |

* significantly different from the reference group (ref.) at the 5% level
1. Dependent variable = 1 if the individual reported voting, 0 otherwise.
2. Marginal effect is for a discrete change in dummy variable from 0 to 1 and is calculated at the means of the independent variables.
Source: Statistics Canada, Labour Force Survey, May 2011.

ment service and religion occupations; and art, culture, recreation and sport occupations—even after controlling for education. Conversely, workers in trades and transport, and equipment operators and related occupations, and those in occupations unique to processing, manufacturing and utilities were about 5 percentage points less likely to vote than those in sales and service occupations.

## Conclusion

In collaboration with Elections Canada, the Labour Force Survey (LFS) asked May 2011 respondents whether they had voted in the federal election earlier that month. Since the LFS includes many sociodemographic and employment variables, and has a large sample size, the voting questions presented a unique opportunity to study factors associated with voting.

Results indicate that individuals under age 45 were less likely to vote, even after controlling for other characteristics. Single people—particularly single parents with young children—were also significantly less likely to vote. Recent immigrants (who had attained citizenship) and individuals with lower levels of education also had lower voting rates.

On the other hand, older individuals, those with higher educational attainment, home owners, and employed people were more likely to vote than others.

Among the employed, long work hours were negatively associated with voting. Workers in the public sector and high-skill occupations were more likely to vote.

Even after controlling for many sociodemographic characteristics, regional differences remained. Further work would be needed to explain such differences.

In the 1990s, the decline in the overall voter turnout rate was linked with the declining participation of younger voters. Since the early 2000s, however, the rates have been relatively stable in Canada, and the participation rate of younger age groups even increased, albeit

## Data source and definitions

In May 2011, at the request of Elections Canada, the Labour Force Survey (LFS) added three voluntary questions on voting. The questions were:

**1. Are you a Canadian citizen?**

(a) Yes

(b) No

**2. In any election, some people are not able to vote because they are sick or busy, or have some other reason. Others do not want to vote. Did you vote in the recent federal election held on Monday, May 2, 2011?**

(a) Yes

(b) No

**3. What is the main reason you did not vote?**

(a) Own illness or disability

(b) Out of town or away from home

(c) Too busy / Family obligations / Conflicting work or school schedule

(d) Weather conditions

(e) Not interested / Felt voting would not make a difference in election results

(f) Didn't like candidates or campaign issues

(g) Not on voters list / Problems with ID requirements

(h) Too difficult / Transportation problems / Too far to travel / Lines too long

(i) Forgot to vote

(j) Religious beliefs

(k) Other

(l) Don't know, Refused

If there were no survey non-responses, the turnout rate would be obtained by dividing the weighted voting population (as per Question 2) by the weighted citizen population (as per Question 1). But as is the case in any survey, the voting questions had some non-response (12% of the overall sample). A method was therefore required to impute a response to non-respondents to make them representative of the population as a whole.

One standard technique used to deal with non-response is the 'hot deck' imputation method. The principle of this technique is to use the characteristics of non-respondents, like age, sex and region, to impute responses on the basis of information given from respondents with similar characteristics. This method is based on the assumption that people with similar characteristics would have similar answers if they had responded to the survey. This method would give an overall voting rate of 70%, compared to the Elections Canada rate of 59% (expressed as a share of all citizens)

Other research has shown that refusing to answer voting questions is highly correlated with non-voting (Bauman and Julian 2010). Accordingly, one imputation option is to treat all non-respondents as non-voters. Using such a technique would bring the LFS rate to 63%, much closer to the official rate of 59%. But applying such a technique might not be appropriate since some of the non-responding 12% may not be due to a refusal to answer the voting questions.

Another approach consists of studying the categories of non-response to determine the most appropriate imputation method for each non-response category. As Table 5 shows, the non-respondents were distributed as follows:

- 6.2% answered the LFS but either refused to answer the voting items, or responded "don't know" (item non-response);
- 1.1% were simply not asked about voting, presumably because the interviewer did not receive the voting module, forgot to ask the questions, or faced a difficult respondent;
- 4.8% did not respond to the LFS as a whole, primarily because the respondent could not be contacted or refused to answer the entire LFS survey.

Since non-response on voting items is probably closely associated with non-participation, all 'item non-response' individuals (6.2% of the sample) were imputed as non-voters.[12]

**Table 5 Distribution of survey respondents**

| | Sample | Population | |
|---|---|---|---|
| | number | number | % |
| **Total** | **96,184** | **24,919,235** | **100** |
| Answered both | 85,274 | 21,912,859 | 88 |
| Imputed voting | 10,910 | 3,006,376 | 12 |
| Refused/Don't know | 5,576 | 1,537,520 | 6 |
| Other | 5,334 | 1,468,856 | 6 |
| Were not asked | 1,006 | 282,981 | 1 |
| LFS also imputed | 4,328 | 1,185,875 | 5 |

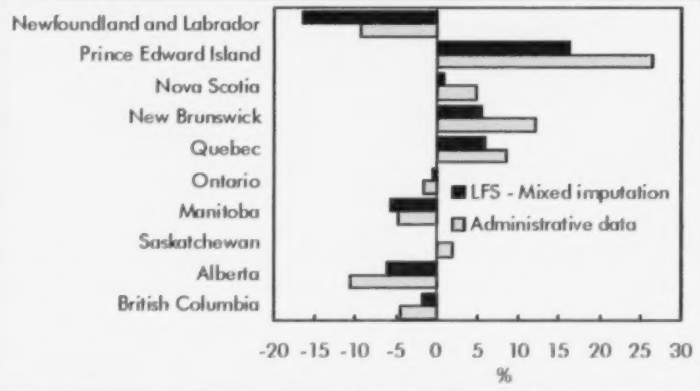
Source: Statistics Canada, Labour Force Survey (LFS), May 2001.

**Data source and definitions** (concluded)

However, for those who could not be contacted, were not asked by the interviewer, or refused to answer the LFS altogether, the hot deck method was applied. This method yields an estimate of 67%, still a few percentage points higher than the Elections Canada turnout rate based on the citizen population, but significantly lower than the estimate from the full application of the hot deck technique.

One way to examine whether the alternative method yields appropriate results is to compare the provincial differences obtained with the provincial differences published by Elections Canada. Provincial patterns in turnout were similar across the two sources, although the magnitude of the difference from the national average changed for some provinces (Chart D). The mixed imputation method also reduced the difference between administrative and survey data sources across age groups, which tend to be particularly concentrated among the youngest and the oldest.

**Chart D Difference from national turnout rate**




Sources: Statistics Canada, Labour Force Survey (LFS), May 2011; Elections Canada.

modestly. In addition, Canada was not alone in experiencing declines in the 1990s, as voter turnout also declined by similar margins in United Kingdom over the same period. In the United States, however, the participation in presidential elections did not decline as much in the 1990s and increased in the 2000s, particularly due to an increase in the youth vote. These gains, however, took place against a backdrop of much lower U.S. participation rates in the 1980s and 1990s.

**Perspectives**

## Notes

1. The reasons for not voting were discussed in a brief *Daily* article following the June release of the Labour Force Survey (*The Daily*, July 5, 2011). The article showed that 40% of non-voters who answered the question cited reasons such as "too busy, out of town, not on voters list, too difficult, transportation problems" for not voting, and another 35% cited a lack of interest for not voting ("not interested, didn't like the candidates or campaign issues").
2. The reason Elections Canada uses the registered population is that the number of registered electors is a count, and therefore not subject to statistical manipulation, sampling variation or later revision. However, when comparing different groups, the citizen population might be a better base as some groups might have different list coverage. Also, the LFS does not have information on registration.
3. Other reasons might include recollection issues by survey respondents, and the extent of questions answered by proxy among groups less likely to vote (like parents answering for their children). Also, the survey did not cover the territories, reserves and armed personnel—some of these regions/groups might have lower turnout rates compared to the national average.
4. Elections Canada only produced rates by age and province.
5. Similar results for the U.S. have been mentioned in Plutzer (2002).
6. Some of the educational categories were collapsed due to small sample sizes for certain age groups, for example, only 1.6% of those age 18 to 24 had an education level of less than high school.
7. Rates not provided for the widowed as only very few had children under 5 years of age.
8. Rates could not be provided by sex due to small sample sizes among most groups of recent immigrants.

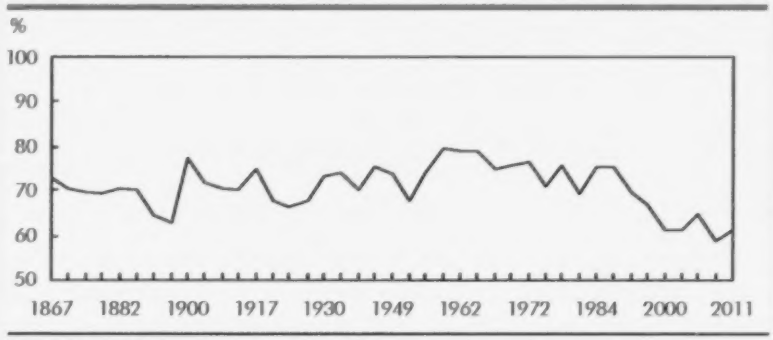
## Changes in participation rates

Because Statistics Canada surveys did not enquire about voting participation prior to the late 1990s, analysis of changes in participation rates over time must be based on other sources. Administrative records from Elections Canada can be used to examine the evolution of the turnout rate (expressed as a percentage of the registered population) since Confederation. For most of the 20th century, the official turnout rate fluctuated around 70% or above in Canada (Chart E). However, it declined rapidly over just one decade—the 1990s—and reached unprecedented low levels in the early 2000s.[13] Since Confederation, the lowest turnout on record was in 2008, with 58.8 % of the registered population casting a vote. It improved marginally to 61.1 % in 2011. In fact, all elections held after 2000 have had turnouts below 65%.

Why did turnout rates decline over the 1990s? Using data from the Canadian Election Study, Blais et al. (2004) suggest that the vast majority of the decline was due to the fact that today's younger cohorts do not vote as much as older people did when they were the same age, a phenomenon referred to as a generational effect. Blais et al. also suggest that the overall decline was partially offset by gains attributable to the increase in educational attainment and in the growing proportions of older population groups, who are more likely to vote. The implication is that were it not for the growing influence of older Canadians and the increase in the educational attainment among youth, the rate would have declined even more (Blais et al. 2004). Various hypotheses have been put forward to explain the decline among young voters over the 1990s, including a lack of political and civic knowledge, a lack of trust and confidence in institutions, changing perceptions of government relevance, and youth's influence on changing government policy (Archer 2003; Adsett 2003; Howe 2008).

In contrast to the 1990s, voting rates in the 2000s have been relatively stable. Elections Canada data do not suggest that the participation rates declined further among youth in recent years. Between 2004 and 2011, the official rate as a portion of the citizen population from age 18 to 24 varied between 37% and 39% (the only exception being 2006 when it reached 44%).

### Chart E Voter turnout rates in Canadian federal elections




Source: Elections Canada.

9. Annual income may also be related to voting behaviour. However, the relationship between household income and voting is mixed (Milan 2005). Furthermore, the study of the relationship between income and voting is not possible with the LFS, as consistent income values for all individuals are not available.

10. When region of birth was included in the model, the results were statistically insignificant for people born in Western and Northern Europe, the United States, Australia, New Zealand, and Southern Asia. On the other hand, people born in the remaining countries/regions were less likely to vote than the Canadian-born.

11. Being a union member was initially included in the model but was found to be highly correlated with working in the public sector and was therefore dropped.

12. The U.S. Census Bureau also deals with item nonresponse in a similar way. Even with this imputation technique, the rates obtained in the survey results remain generally higher by 3 or 4 percentage points (with the exception of the 2008 presidential election when the estimates rate was much closer to the official rate), a gap many attribute to the social desirability phenomenon. Prior to the 1990s, the U.S. Census Bureau also produced estimates that were 10 to 12 points higher than the official turnout rates published by the Office of the Clerk of the U.S. House of Representatives.

13. Caution needs to be exercised when comparing rates over time due to certain legislative changes. Some examples include: (i) Women had the same voting rights as men only starting with the 1918 federal elections; (ii) In 1920, native people everywhere in Canada were enfranchised, but Status Indians had to give up their treaty rights and registered Indian status to do so—that condition was removed from election legislation in 1960; (iii) In 1970, the voting age was lowered from 21 to 18 years; (iv) In 1993, for the first time, qualified voters living outside Canada were allowed to vote by mail in their home

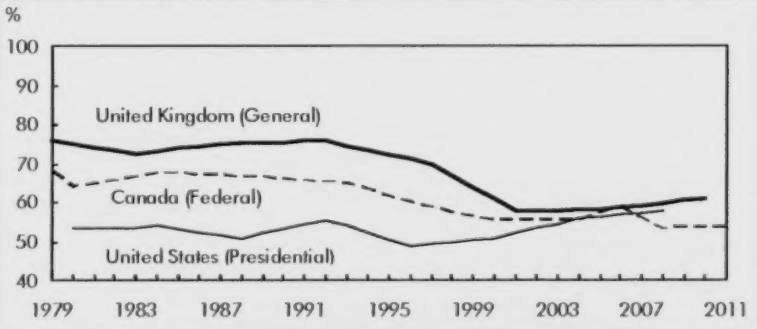
## International comparisons

Comparisons in participation rates between countries are not straightforward, not the least because every political system is different. In the United States (U.S.), legislative elections take place every two years to elect all of the House of Representatives and one-third of the Senate. Presidential elections occur every four years at a fixed date (in November), and typically command more attention from the media and the public. In this section, Canadian federal elections are compared to U.S. presidential and mid-term elections, but also to United Kingdom (U.K.) general elections because the Canadian electoral system is largely inspired by the Westminster system of government.

For all three countries, estimates must be produced for both the number of voters (the numerator) and the base population (the denominator). Given known survey differences between countries and the lack of long-term survey data for Canada, the official counts are taken from both countries to generate the number of voters. For the denominator, the voting-age population is used as comparable alternatives across countries would be more difficult to obtain.[14]

From the late 1970s to the early 1990s, the participation rate was relatively stable in all three countries. Historically, the rates were higher in the United Kingdom as participation typically amounted to about 75% of the voting-age population, compared to about 66% in Canada and less than 55% in the United States (Chart F). However, during the 1990s, participation rates in both Canada and the U.K. declined significantly, while the participation rate in U.S. presidential elections remained relatively stable and increased over the 2000s to reach 58% of the voting-age population in 2008—mainly because of significant increases in the participation of young citizens (U.S. Census Bureau 2010). The pattern now appears to be one of convergence, as participation in all three countries varied between 50% and 60% in almost every election since the mid-2000s. However, participation rates in Canada and the U.K. remain much higher than those in the U.S. mid-term elections, which have much lower participation rates than presidential elections (similarly defined participation rates at mid-terms varied between 33% and 38% over the 1979 to 2011 period).[15]

**Chart F Voters as a percentage of voting-age population in Canada, the United States and the United Kingdom**




Sources: To ensure consistency, voting-age population figures for each country were taken from the Human Mortality Database (HMD). The HMD (www.mortality.org) ensures that a similar methodology is used to estimate population estimates by age by using the most recent census count in each country. Voting numbers were retrieved from Elections Canada, the office of the Clerk of the U.S. House of Representatives, the U.K. Election Commission, and the Library of the British House of Commons. Numbers from the 1979 U.K. General Election were retrieved from the BBC (British Broadcasting Coporation) archives.

riding; (v) For the first time in the 2000 federal election, homeless people were able to vote; and (vi) Incarcerated electors serving less than two years were allowed to vote for the first time in 1993 and those serving two years or more in 2002, as a result of Supreme Court rulings in *Sauvé versus Canada (Attorney General)*.

14. One caveat is that the voting-age population includes non-permanent residents who do not have the right to vote, which may vary from country to country. One alternative would be to use the number of citizens, but consistently defined estimates are difficult to obtain for every country. Another denominator could be the registered population, but it could not be used because the registration process differs across countries (and even across American states).

15. Furthermore, if the rate were expressed as a share of the citizen population, the U.S.–Canada difference seen in 2008 would be somewhat larger because the United States has a slightly higher share of non-permanent (and incarcerated) residents.

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